

What is claimed is:

1. A method for alleviating register window size
5 constraints in microprocessor computer system using
register window architecture comprising:
 providing a microprocessor having registers
arranged in two or more register windows, each of said
register windows comprising a plurality of registers;
10 providing a first window pointer for designating
one of said two or more register windows;
 providing an effective current register pointer
for designating one of said two or more register
windows, said effective current register pointer
15 allowing an application running on said microprocessor
to access more than one of said at least two register
windows for using data associated with said
application.
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2. The method for alleviating register window
size constraints in microprocessor computer system
using register window architecture of Claim 1, wherein;
 said first window pointer is a register and said
25 effective current register pointer is a register.
3. The method for alleviating register window
size constraints in microprocessor computer system
30 using register window architecture of Claim 2, wherein;
 said first window pointer is a current window
pointer.
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4. The method for alleviating register window
size constraints in microprocessor computer system
using register window architecture of Claim 2, wherein;

said microprocessor is a SPARC microprocessor.

5 5. The method for alleviating register window
size constraints in microprocessor computer system
using register window architecture of Claim 1, wherein;
on a context switch reload of said registers of
said microprocessor, said register windows designated
by said first window pointer and said effective current
10 register pointer are reloaded.

6. The method for alleviating register window
size constraints in microprocessor computer system
15 using register window architecture of Claim 1, wherein;
on a context switch reload of said registers of
said microprocessor, said register window designated by
said first window pointer, said register window
designated by said effective current register pointer,
20 and any register windows between said register window
designated by said first window pointer and said
register window designated by said effective current
register pointer are reloaded.

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7. The method for alleviating register window
size constraints in microprocessor computer system
using register window architecture of Claim 1, wherein;
said effective current register pointer overrides
30 said first window pointer when said effective current
register pointer designates a register window different
from a register window designated by said first window
pointer.

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8. A method for alleviating register window size constraints in microprocessor computer system using register window architecture comprising:

- providing a microprocessor having registers
- 5 arranged in two or more register windows, each of said register windows comprising a plurality of registers;
- providing a first window pointer for designating one of said two or more register windows, said first window pointer being a register;
- 10 providing an effective current register pointer for designating one of said two or more register windows, said effective current register pointer being a register, said effective current register pointer allowing a function running on said microprocessor to
- 15 access more than one of said at least two register windows for using data associated with said application.

- 20 9. A microprocessor in microprocessor computer system using register window architecture comprising:
- registers arranged in two or more register windows, each of said register windows comprising a plurality of registers;

- 25 a first window pointer for designating one of said two or more register windows;
- an effective current register pointer for designating one of said two or more register windows, said effective current register pointer allowing an
- 30 application running on said microprocessor to access more than one of said at least two register windows for using data associated with said application.

- 35 10. The microprocessor of Claim 9, wherein;
- said first window pointer is a register and said effective current register pointer is a register.

11. The microprocessor of Claim 10, wherein;
said first window pointer is a current window
5 pointer.

12. The microprocessor of Claim 10, wherein;
said microprocessor is a SPARC microprocessor.
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13. The microprocessor of Claim 9, wherein;
on a context switch reload of said registers of
said microprocessor, said register windows designated
15 by said first window pointer and said effective current
register pointer are reloaded.

14. The microprocessor of Claim 9, wherein;
20 said effective current register pointer overrides
said first window pointer when said effective current
register pointer designates a register window different
from a register window designated by said first window
pointer.
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15. A microprocessor in microprocessor computer
system using register window architecture comprising:
registers arranged in two or more register
30 windows, each of said register windows comprising a
plurality or registers;
a first window pointer for designating one of said
two or more register windows, said first window pointer
being a register;
35 an effective current register pointer for
designating one of said two or more register windows,
said effective current register pointer being a

register, said effective current register pointer allowing an application running on said microprocessor to access more than one of said at least two register windows for using data associated with said

5 application, wherein;

on a context switch reload of said registers of said microprocessor, said register window designated by said first window pointer, said register window designated by said effective current register pointer, and any register windows between said register window designated by said first window pointer and said register window designated by said effective current register pointer are reloaded, further wherein;

15 said effective current register pointer overrides said first window pointer when said effective current register pointer designates a register window different from a register window designated by said first window pointer.

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16. A computer system, said computer system comprising:

A microprocessor using a register window architecture said microprocessor comprising:

25 registers arranged in two or more register windows, each of said register windows comprising a plurality or registers;

a first window pointer for designating one of said two or more register windows;

30 an effective current register pointer for designating one of said two or more register windows, said effective current register pointer allowing an application running on said microprocessor to access more than one of said at least two register windows for
35 using data associated with said application.

17. The computer system of Claim 16, wherein;
said first window pointer of said microprocessor
is a register and said effective current register
pointer is a register.

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18. The computer system of Claim 17, wherein;
said first window pointer of said microprocessor
is a current window pointer.

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19. The computer system of Claim 16, wherein;
said microprocessor is a SPARC microprocessor.

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20. The computer system of Claim 16, wherein;
on a context switch reload of said registers of
said microprocessor, said register windows designated
by said first window pointer and said effective current
register pointer are reloaded.

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21. The computer system of Claim 16, wherein;
on a context switch reload of said registers of
said microprocessor, said register window designated by
said first window pointer, said register window
designated by said effective current register pointer,
and any register windows between said register window
designated by said first window pointer and said
register window designated by said effective current
register pointer are reloaded.

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22. The computer system of Claim 16, wherein;
said effective current register pointer of said
microprocessor overrides said first window pointer when
said effective current register pointer designates a

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register window different from a register window designated by said first window pointer.

5 23. A computer system, said computer system comprising:

 A microprocessor using a register window architecture said microprocessor comprising:

 registers arranged in two or more register
10 windows, each of said register windows comprising a plurality or registers;

 a first window pointer for designating one of said two or more register windows, said first window pointer being a register;

15 an effective current register pointer for designating one of said two or more register windows, said effective current register pointer being a register, said effective current register pointer allowing an application running on said microprocessor
20 to access more than one of said at least two register windows for using data associated with said application, wherein;

 on a context switch reload of said registers of said microprocessor, said register window designated by
25 said first window pointer, said register window designated by said effective current register pointer, and any register windows between said register window designated by said first window pointer and said register window designated by said effective current
30 register pointer are reloaded, further wherein;

 said effective current register pointer overrides said first window pointer when said effective current register pointer designates a register window different from a register window designated by said first window
35 pointer.